

## BOOK REVIEW

**G.E. Gibbs-Russell, L. Watson, M. Koekemoer, N.P. Barker, H.M. Anderson, M.J. Dallwitz.** *Grasses of Southern Africa*. Memoirs of the Botanical Society of South Africa, No 58. Pp. ix + 437, 235 text-figures, dot maps, 24 plates (216 photographs). South Africa: National Botanic Gardens/Botanical Research Institute, Pretoria, 1990. Price (overseas) £15.15 (\$24.70). ISBN 0 620 14846 2.

This book is unique in that it has been compiled using computer technology by a team of people (seven authors with an editorial committee of six) in a relatively short time – about 3 years as far as I know. Indeed it is, as stated in an introductory chapter, “the only identification manual for a major plant family occurring in a large area to be produced from computerized data.” The keys and descriptions of genera have been produced from the database of world grass genera of Watson *et al.* (1988) using the KEY and CONFOR programs of DELTA (Dallwitz & Paine 1986), the species descriptions have been produced from a basic character list representing “the minimum information required to distinguish species from others in its genus” using DELTA, the distribution maps, one for each entity (species or infra-specific taxon), have been plotted from specimen records from the PRECIS data-base (Gibbs-Russell & Arnold 1989) and generic and species descriptions and generic keys have been printed using the program TYPSET (Dallwitz & Zurcher 1988). The only descriptive part of the text not prepared by DELTA were the species keys as the amount of data presently available is insufficient for key generation. At least one species of each genus is illustrated as well as there being at least one spikelet photograph for each genus.

The book is essentially a update and successor to Chippindall (1955), a work long out of print and a well-known and classical reference work on southern African grasses used world wide. As both accounts have a double-columned text and are comparable in size (Gibbs-Russell *et al.* 403 A4 pages and 235 figures; Chippindall 527 Quarto pages and 421 figures) and cover the same geographical area of South Africa, Namibia and Botswana a comparison can be made between the two. The multi-authorship of Gibbs-Russell *et al.* is reflected in the very different look of the computer generated generic keys and descriptions of Watson compared with the naturally generated species descriptions of the South African based authors. In my view there should have been some judicious pruning of the generic descriptions and keys with a word-processor to make them more user-friendly and cut down the rather lengthy text resulting from computer-generated methods. These points have also been mentioned in another recent review (Clayton 1991). I also think most of the generic synonymy and the generic character list extracted straight from the world generic list, is extraneous in the South African context. Chippindall's work on the other hand had the advantage of single authorship by an agrostologist who had a very good overall grasp of the taxonomic problems of South African grasses reflected by their morphology, so refreshingly discussed in the body of her work. There is, on the other hand, little discussion of this nature in the recent book.

The most useful aspects of Gibbs-Russell *et al.* are the updating of the nomenclature of South African grasses, a distribution map of each entity, illustrations of species not previously illustrated, a useful glossary and introduction, including an informative overview of leaf-blade anatomy, photosynthetic pathways and climatic adaptation, features relatively unknown at the time of Chippindall's account. However the main compilation by computer of this book illustrates well how this technique may well become standard practice in books of this nature in the future.

## References

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